

SEQUENCE LISTING

09/700712

<110> SBL Vaccin AB

<120> Method of producing thy A- strains of Vibrio cholerae, such strains and their use.

<130> 29772

<140>

<141>

<150> SE 9801852-6

<151> 1998-05-26

<160> 5

<170> PatentIn Ver. 2.1

<210> 1

<211> 2909

<212> DNA

<213> Vibrio cholerae

<400> 1

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 <212> DNA
 <213> Vibrio cholerae

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<210> 3
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<210> 4
<211> 283
<212> PRT
<213> Vibrio cholerae

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35 40 45
Thr Arg Lys Ser Phe Trp Lys Ala Ala Val Ala Glu Leu Leu Gly Tyr
50 55 60
Ile Arg Gly Tyr Asp Asn Ala Ala Asp Phe Arg Gln Leu Gly Thr Lys
65 70 75 80
Thr Trp Asp Ala Asn Ala Asn Leu Asn Gln Ala Trp Leu Asn Asn Pro
85 90 95
Tyr Arg Lys Gly Glu Asp Asp Met Gly Arg Val Tyr Gly Val Gln Gly
100 105 110
Arg Ala Trp Ala Lys Pro Asp Gly Gly His Ile Asp Gln Leu Lys Lys
115 120 125
Ile Val Asp Asp Leu Ser Arg Gly Val Asp Asp Arg Gly Glu Ile Leu
130 135 140
Asn Phe Tyr Asn Pro Gly Glu Phe His Met Gly Cys Leu Arg Pro Cys
145 150 155 160
Met Tyr Ser His His Phe Ser Leu Leu Gly Asp Thr Leu Tyr Leu Asn
165 170 175
Ser Thr Gln Arg Ser Cys Asp Val Pro Leu Gly Leu Asn Phe Asn Met
180 185 190
Val Gln Val Tyr Val Phe Leu Ala Leu Met Ala Gln Ile Thr Gly Lys
195 200 205
Lys Pro Gly Leu Ala Tyr His Lys Ile Val Asn Ala His Ile Tyr Gln
210 215 220
Asp Gln Leu Glu Leu Met Arg Asp Val Gln Leu Lys Arg Glu Pro Phe
225 230 235 240
Pro Ala Pro Gln Phe His Ile Asn Pro Lys Ile Lys Thr Leu Gln Asp
245 250 255
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<210> 5
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 <212> PRT
 <213> Vibrio cholerae

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 35 40 45
 Gly Ser Gly Trp Thr Arg Glu Gln Val Ser Asp Leu Leu Phe Ala Gly
 50 55 60
 Phe Leu Gly Val Val Ile Gly Gly Arg Val Gly Tyr Val Ile Phe Tyr
 65 70 75 80
 Asn Phe Asp Leu Phe Leu Ala Asp Pro Leu Tyr Leu Phe Lys Val Trp
 85 90 95
 Thr Gly Gly Met Ser Phe His Gly Gly Leu Leu Gly Val Ile Thr Ala
 100 105 110
 Met Phe Trp Tyr Ala Arg Lys Asn Gln Arg Thr Phe Phe Gly Val Ala
 115 120 125
 Asp Phe Val Ala Pro Leu Val Pro Phe Gly Leu Gly Met Gly Arg Ile
 130 135 140
 Gly Asn Phe Met Asn Ser Glu Leu Trp Gly Arg Val Thr Asp Val Pro
 145 150 155 160
 Trp Ala Phe Val Phe Pro Asn Gly Gly Pro Leu Pro Arg His Pro Ser
 165 170 175
 Gln Leu Tyr Glu Phe Ala Leu Glu Gly Val Val Leu Phe Phe Ile Leu
 180 185 190
 Asn Trp Phe Ile Gly Lys Pro Arg Pro Leu Gly Ser Val Ser Gly Leu
 195 200 205
 Phe Leu Ala Gly Tyr Gly Thr Phe Arg Phe Leu Val Glu Tyr Val Arg
 210 215 220
 Glu Pro Asp Ala Gln Leu Gly Leu Phe Gly Gly Phe Ile Ser Met Gly
 225 230 235 240
 Gln Ile Leu Ser Leu Pro Met Val Ile Ile Gly Ile Leu Met Met Val
 245 250 255
 Trp Ser Tyr Lys Arg Gly Leu Tyr Gln Asp Arg Val Ala Ala Lys
 260 265 270